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EXAMINER
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RAPP, CHAD

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/716,702

Examiner

Chad Rapp

Applicant(s)

ALICE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other:  |

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1. Claims 1-20 are presented for examination.

***Claim Objections***

2. Claims 7 and 10 are objected to because of the following informalities:

In claim 7, lines 14-16 the (g), (h) and (i) do not correspond to the correct letters. Some letters refer to capturing steps and some letters refer to associating steps.

In claim 10, line 2 the (g) does not correspond to the correct letters. Some letters refer to capturing steps and some letters refer to associating steps.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 1 “the association “ should be changed to “an association”. There is insufficient antecedent basis for this limitation in the claim.

In claim 1, line 8 “the manufacture” should be changed to “ a manufacture”. There is insufficient antecedent basis for this limitation in the claim.

In claim 4, line 4 “ the group” should be changed to “a group”. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 9-14 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al. in view of Abe et al. and further in view of Hopkins et al.

Matsui et al. teaches the claimed invention(claims 1 and 11) substantially as claimed including a computerized method and apparatus for tracing the association of components consumed in production of printed circuit board assemblies comprising:

a. Receiving an indication of a failure of a first printed circuit board assembly is taught as a test apparatus identifies a defective PCB(col. 6 lines 27-30);

b. Receiving an indication of a failed component of the first printed circuit board assembly, the failed component being a member of a plurality of substantially similar components that were used in the manufacture of a plurality of printed circuit board assemblies is taught as field failure data is generated. It becomes possible to recognize(identify) the type of defective equipment(electronic part) (col. 10 lines 1-7);

c. Determining a second unique identification number of a second printed circuit board assembly that comprises a failed component of the plurality of substantially similar components is taught as data of the defective parts name and lot code are input and the tracking

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processing part obtains the name of the printed circuit boards having the defective part and destination of the part, where they are shipped(col. 11 lines 47-55).

Matsui et al. teaches the above listed details of the independent claims 1 and 11, however, Matsui et al. does not teach: Communicating the second unique identification number to an entity associated with possession of the second printed circuit board assembly and the first printed circuit board assembly having a first unique identification number.

Abe et al. teaches :

a. Communicating the second unique identification number to an entity associated with possession of the second printed circuit board assembly is taught as the PCB has a fault. The system needs to learn all customers that it has been delivered to, which a relational database is used. A list is output. This list is sent to the dealer and customer engineering departments(col. 7 lines 39-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Abe et al. because this would alert the downstream entities of possible problems with certain PCB. This alert would allow the entities to change out the PCB's before a failure.

Hopkins et al. teaches :

a. The first printed circuit board assembly having a first unique identification number is taught as each PCB has a bar code(col. 5 line 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Hopkins et al.

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because it would allow the system of Matsui et al. , which deals with tracking PCB's, to track the PCB's throughout the process easily.

As to claim 2, Matsui et al. teaches wherein the receiving step(b) is performed before the receiving step (a) is taught as the data of the failed defective parts name and lot code are used to obtain the name of the printed circuit board having this failed part(col. 11 lines 47-55).

As to claims 3 and 12, Hopkins et al. teaches wherein the plurality of substantially similar components further comprise a reel of components is taught as a reel of parts(col. 6 lines 28-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Hopkins et al. because it would allow the system to track components with PCB's easier and quickly alerting customers of problem components.

As to claims 4 and 13, Hopkins et al. teaches:

a. Determining a causation of the failure of the first printed circuit board assembly, the causation being associated with a source selected from the group consisting of a vendor of the failed component, a manufacture of the failed component, and a process of manufacturing the printed circuit board assembly is taught as out of control condition of the processing machine(process or manufacturing) or inputted the wrong reel(col. 5 line 60 to col. 6 line 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Hopkins et al. because if the causation is found it can be fixed for subsequent runs. Cost savings are made by finding the problem and manufacturing good PCB's.

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As to claim 5,

Matsui et al. teaches :

a. Determining a plurality of unique identification numbers of the members of the plurality of printed circuit board assemblies, other than the failed printed circuit board assembly, that comprises a failed component of the plurality of substantially similar components is taught as data of the defective parts name and lot code are input and the tracking processing part obtains the name of the printed circuit boards having the defective part and destination of the part, where they are shipped(col. 11 lines 47-55).

Abe et al. teaches :

a. Communicating the plurality of unique identification numbers to at least one entity associated with possession of the second printed circuit board assembly is taught as the PCB has a fault. The system needs to learn all customers that it has been delivered to, which a relational database is used. A list is output. This list is sent to the dealer and customer engineering departments(col. 7 lines 39-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Abe et al. because this would alert the downstream entities of possible problems with certain PCB. This alert would allow the entities to change out the PCB's before a failure.

As to claims 6 and 18, Abe et al. teaches wherein an entity associated with possession further comprises a downstream member of a marketing channel is taught as factory is upstream from warehouse which is upstream from dealer which is upstream from customer(col. 1 lines 29-32 and fig. 1).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Abe et al. because it increases the ability to report alerts to the entities that are connected over a network to the factory.

As to claims 7 and 14,

Hopkins teaches:

- a. Capturing an identification of the plurality of substantially similar components is taught as affixing bar codes to individual reels(col. 1 lines 51-53 and col. 13 lines 56-57).
- b. Capturing the first unique identification number of the first printed circuit board assembly is taught as each PCB has a bar code(col. 5 line 51).
- c. Wherein the capturing step (f) and the capturing step (g) are performed during a production of the first printed circuit board assembly is taught as the fixed bar scanner reads the PCB bar code and the handheld scanner reads codes of the parts or the reel of parts(col. 5 lines 46-58 and col. 6 lines 17-53).
- d. The associating step (h) and the capturing step (i) are performed during a production of the second printed circuit board assembly is taught as the fixed bar scanner reads the PCB bar code and the handheld scanner reads codes of the parts or the reel of parts and these codes are used to allow traceability of the manufacturing process such that each part installed on a given PCB can be tracked(col. 5 lines 46-58 and col. 6 lines 17-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Matsui et al. with the teachings of Hopkins et al.



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because it would allow the system to track components with PCB's easier and quickly alerting customers of problem components.

Matsui et al. teaches :

a. Associating the identification of the plurality of substantially similar components with the first unique identification number of the first printed circuit board assembly is taught as a mounting history of printed circuit boards as well as a list of structural parts mounted on the printed circuit boards(col. 9 line 67 to col. 10 line 7).

b. Capturing the second unique identification number of the second printed circuit board assembly is taught as the edition number and manufacturing part number is stored in data file 227 under the control of a printed-circuit board manufacturing process(col. 11 lines 23-27).

c. Associating the identification of the plurality of substantially similar components with the second unique identification number of the second printed circuit board assembly is taught as data of the defective parts name and lot code are input and the tracking processing part obtains the name of the printed circuit boards having the defective part and destination of the part, where they are shipped(col. 11 lines 47-55).

As to claims 9 and 16, Hopkins et al. teaches wherein the capturing step (f) comprise:

a. Scanning a bar code of a reel of components is taught as a handheld scanner reads the code of the reel of parts(col. 5 lines 46-58 and col. 6 lines 17-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Matsui et al. with the teachings of Hopkins et al. because it would allow the system to track components with PCB's easier and quickly alerting customers of problem components.

As to claim 10, Hopkins et al. teaches wherein the capturing step (f) is performed before the capturing step (g) is taught as PCB starts of the process its barcode is read by a fixed bar code scanner it goes to a process machine which has reel of parts and the reel of parts is read by a hand held scanner (col. 5 line 45 to col. 6 line 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Matsui et al. with the teachings of Hopkins et al. because it would allow the system to track components with PCB's easier and quickly alerting customers of problem components.

As to claim 17, Matsui et al. teaches that a second determiner of a plurality of unique bar-coded identification numbers of the members of the plurality of printed circuit board assemblies, other than the failed printed circuit board assembly, that comprises a failed component of the plurality of substantially similar components is taught as data of the defective parts name and lot code are input and the tracking processing part obtains the name of the printed circuit boards having the defective part and destination of the part, where they are shipped(col. 11 lines 47-55).

As to claim 19, Abe et al. teaches that a second communicator of the plurality of unique bar-coded identification numbers to at least one entity associated with possession of the second printed circuit board assembly is taught as the PCB has a fault. The system needs to learn all customers that it has been delivered to, which a relational database is used. A list is output. This list is sent to the dealer and customer engineering departments(col. 7 lines 39-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Abe et al.

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because this would alert the downstream entities of possible problems with certain PCB. This alert would allow the entities to change out the PCB's before a failure.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al. in view of Abe et al. in view of Hopkins et al. and further in view of Easton.

Matsui et al., Abe et al. and Hopkins et al. teach the claimed invention(claims 1 and 11) see paragraph number 6 above.

As to claims 8 and 15, wherein the identification of the plurality of substantially similar components further comprises

Easton teaches:

a. A trace code of the plurality of substantially similar components is taught as part number(abstract);

b. A lot code of the plurality of substantially similar components is taught as the lot number(abstract);

c. A vendor of the plurality of substantially similar components is taught as the component vendor(abstract).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made or used to modify the teachings of Matsui et al. with the teachings of Easton because the Easton invention describes various information that can be put on a bar code that can be read by bar code scanners at the factory. An easier way to tracking and generate information from the PCB's and the components used.

Matsui et al. teaches :

- d. A production date is taught as manufacture date (fig. 19)

Hopkins et al. teaches :

- e. A date after which the printed circuit board assembly identification is produced is taught as the data of delivery (col. 7 lines 7-8).
- f. A date before which the printed circuit board assembly identification is produced is taught as the bar code data is time stamped before all processes are completed(col. 5 lines 55-58).

It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Matsui et al. with the teachings of Hopkins et al. because it would allow the system to track components with PCB's easier and quickly alerting customers of problem components.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al. in view of Hopkins et al.

Matsui et al. teaches the claimed invention ( claim 20) substantially as claimed including a system for associating tracing failed components in a printed circuit board assemblies comprising:

- a. A processor is taught as the CPU(col. 5 line 55);
- b. A storage device coupled to the processor is taught as memory(col. 57).

Matsui et al. teaches the above listed details of the independent claim 20, however, Matsui et al. does not teach: Software means operative on the processor fro tracing the association of components consumed in production of a plurality of printed circuit board assemblies through a group of substantially similar components embodied on a reel; wherein the printed circuit boards are determined to be associated from a bar-coded identification code on each of the plurality of printed circuit board assemblies and from a bar-coded identification code on a the group of substantially similar components embodied on a reel.

Hopkins et al. teaches :

- a. Software means operative on the processor fro tracing the association of components consumed in production of a plurality of printed circuit board assemblies through a group of substantially similar components embodied on a reel; wherein the printed circuit boards are determined to be associated from a bar-coded identification code on each of the plurality of printed circuit board assemblies and from a bar-coded identification code on a the group of substantially similar components embodied on a reel is taught as the operation of a single

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machine manager terminal and associated hardware and software for use in a manufacturing operation(col. 13 lines 50-67).

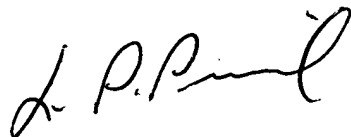
It would have been obvious to one of ordinary skill in the art at the time the invention was used or made to modify the teachings of Matsui et al. with the teachings of Hopkins et al. because the Matsui et invention had a processor and a memory that contain programs; these programs ran the system to track PCB's and components and that is the same thing the software of Hopkins et al. did. So the software in Hopkins et al. that tracked PCB's and components could be stored in the memory of Matsui et al.

*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Rapp whose telephone number is (703)306-4528. The examiner can normally be reached on Mon-Fri 11:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (703)308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703)746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9600.



Chad Rapp  
Examiner  
Art Unit 2125

cjr

LEO PICARD  
SUPERVISORY PATENT EXAMINER  
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